

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Calculus: Review for Q4 Exam 1

This review sheet is not comprehensive. Be sure to study your notes and homework as well!

For questions 1-4, find the value of each definite integral.

1.  $\int_1^2 x^2 dx$

2.  $\int_{-1}^3 (3x^2 - 2x - 1) dx$

3.  $\int_1^8 \left( \frac{x-2}{\sqrt[3]{x}} \right) dx$

4.  $\int_0^\pi (2 + \sin(x)) dx$

5. Find the area between  $f(x) = 2x^2 - 3x + 1$  and the x-axis on the interval  $[1,2]$ .

6. Find the area between  $f(x) = x^2 - 9$  and the x-axis.

7. Find the area between  $y = x^2 + 2x + 1$  and  $y = 2x + 5$ .

8. Find the area between  $f(x) = x$  and  $g(x) = 2 - x^2$ .

9. Find the area of the shaded region on the accompanying graph:

